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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/584,481	05/31/2000	Marcos N. Novaes	POU9-2000-0014-US1	4790

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EXAMINER	
WON, YOUNG N	

ART UNIT	PAPER NUMBER
2155	13

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/584,481	Applicant(s) NOVAES ET AL.	
	Examiner Young N Won	Art Unit 2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-25 have been re-examined and are pending with this action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 10-14, 17-21, 24, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Wolski et al. "2PC Agent Method: Achieving Serializability in Presence of Failures in a Heterogeneous Multidatabase"; Databases, Parallel Architectures and Their Applications, PARBASE-90, International Conference on, 7-9 March 1990, pp.321-330.

As per claims 1, 2, and 3, Wolski teaches a method, a system, and at least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method of, serializing replicated transactions (see title, abstract and Fig.1) in a distributed computing environment (see pg.321: col.1, paragraph 2, first sentence and col.2, paragraph 1, last sentence: "distributed database system"), said method comprising: initiating a modification operation on a replicated resource of a distributed computing environment

(see pg.323: col.1, paragraph 1, first sentence: "The interface supports high level database manipulation operations"); during a phase of said modification operation, detecting whether a conflict for said replicated resource exists (see pg.324: col.1, paragraph 1: "(CLT)"); and satisfying said conflict, if said conflict exists (see pg.324: col.1, paragraph 1: "(LL)" and pg.324: col.1, section: 2.3, paragraph 2 and 3), without requiring explicit locking of said replicated resource (see pg.323: col.2, paragraph 1, second sentence: "Note that, when the 2PC... ").

As per claims 4, 11, and 18, Wolski further teaches wherein the modification operation comprises a plurality of phases (see pp.322: col.1, last paragraph, first sentence), and wherein the detecting comprises detecting whether a conflict for the replicated resource exists during a first phase of the modification operation (implicit: see pg.323: Fig.2 and pg.324: col.1, section: 2.3, paragraph 2 and 3).

As per claims 5, 12, and 19, Wolski further teaches wherein the distributed computing environment comprises a processing group with a plurality of members (see pg.322: Fig.1), and wherein the first phase proceeds in parallel with respect to the plurality of members (see pg.322: col.2, paragraph 3, last sentence: "The modules are mutithreaded in the sense...").

As per claims 6, 13, and 20, Wolski further teaches wherein the satisfying comprises satisfying the conflict during a second phase of the modification operation (see pg.325: col.1, paragraph 5 - paragraph 8).

As per claims 7, 14, and 21, Wolski and Krause further teach wherein the distributed computing environment comprises a processing group with a plurality of

members (see pg.322: Fig.1), and wherein the second phase proceeds serially with respect to at least some of the plurality of members in order to satisfy the conflict (see pg.325: col.1, section 3.5, paragraph 3: "The global subtransactions may be...").

As per claims 10, 17, and 24, Wolski further teaches wherein the distributed computing environment comprises a processing group with a plurality of members (see pg.322: Fig.1), but he does not explicitly teach wherein the detecting comprises comparing requests for the replicated resource from at least some of the plurality of members (see pg.324: col.1, last paragraph, last sentence – col.2, first paragraph).

As per claim 25, Wolski further teaches wherein the satisfying comprises using a two-phase commit to satisfy the conflict (see pp.322: col.1, last paragraph, first sentence).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The indicated allowability of claims 8-9, 15-16, and 22-23 are withdrawn in view of the newly discovered reference(s) to *Wolski et al. "2PC Agent Method: Achieving Serializability in Presence of Failures in a Heterogeneous Multidatabase"; Databases,*

Parallel Architectures and Their Applications, PARBASE-90, International Conference on, 7-9 March 1990, pp.321-330. Rejections based on the newly cited reference(s) follow.

4. Claims 8-9, 15-16, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolski et al. "2PC Agent Method: Achieving Serializability in Presence of Failures in a Heterogeneous Multidatabase"; Databases, Parallel Architectures and Their Applications, PARBASE-90, International Conference on, 7-9 March 1990, pp.321-330 in view of Sonnier et al. (US 5574849 A).

As per claims 8, 15, and 22, Wolski teach a method, a system, and at least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method of, serializing replicated transactions in a distributed computing environment comprising: initiating a modification operation on a resource of a distributed computing environment comprising a processing group with a plurality of members, and wherein the modification operation comprises a plurality of phases; during a first phase of said modification operation, detecting whether a conflict for said resource exists; and satisfying said conflict, if said conflict exists, without requiring locking of said resource, wherein the satisfying comprises satisfying the conflict during a second phase of the modification operation, and wherein the second phase proceeds serially with respect to at least some of the plurality of members in order to satisfy the conflict (see claim 1-7 rejection above). Wolski does not teach wherein the satisfying comprises at least one of the at least some of the plurality of members withholding information in order for the second phase to

proceed serially. Sonnier teaches wherein the satisfying comprises at least one of the at least some of the plurality of members withholding information in order for the second phase to proceed serially (see col.56, lines 32-38 and col.81, lines 10-14). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Sonnier within the system of Wolski by implementing at least some of the plurality of members withholding information in order for the second phase to proceed serially within the method, system, and program of serializing replicated transactions because when data is written at one location by more than one member at the same time error and data corruption will occur.

As per claims 9, 16, and 23, Wolski further teaches wherein the information comprises an acknowledgement (see pg.323: Fig.2).

Response to Arguments

5. Applicant's arguments, filed January 29, 2004, with respect to the rejection(s) of all pending claim(s) under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Wolski et al. "2PC Agent Method: Achieving Serializability in Presence of Failures in a Heterogeneous Multidatabase"; Databases, Parallel Architectures and Their Applications, PARBASE-90, International Conference on, 7-9 March 1990, pp.321-330 and Sonnier et al. (US 5574849 A).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Young N Won whose telephone number is 703-605-4241. The examiner can normally be reached on M-Th: 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T Alam can be reached on 703-308-6662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Young N Won

March 10, 2004

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER